



# Parts Manual

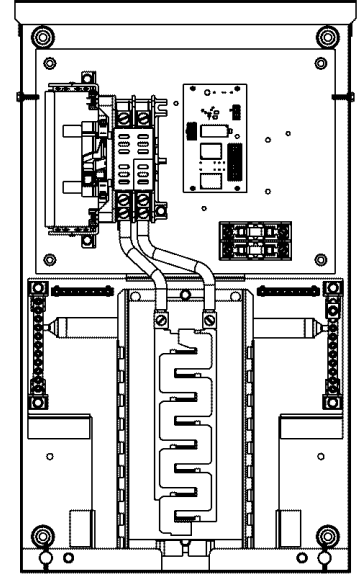
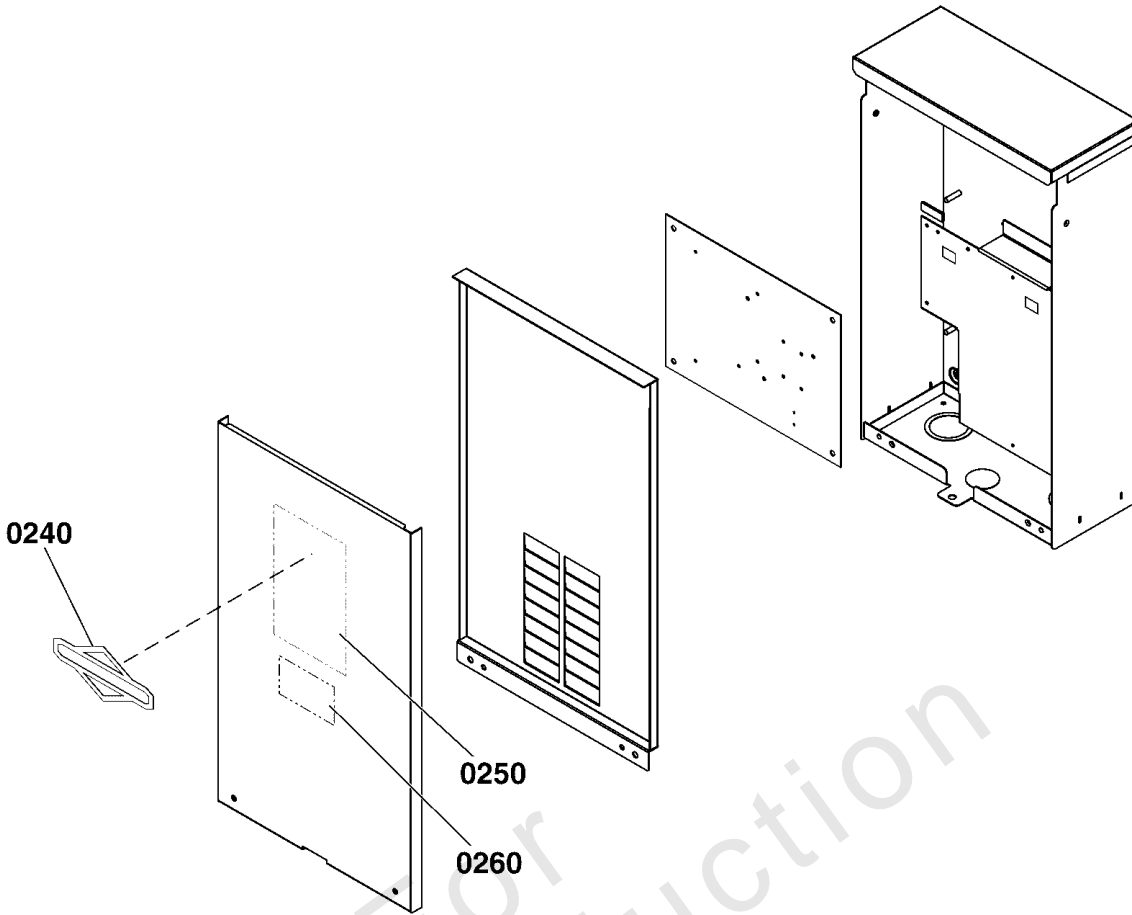
Mfg. No: 071212-00  
100 Amp Automatic Transfer Switch



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<b>Model Components</b>	<b>Page</b>
Decals Group - ATS Informational. ....	4
Decals Group - ATS Warning. ....	6
Transfer Switch - Enclosure. ....	8
Torque Specification Chart. ....	10

Not For  
Reproduction



0240

Briggs & Stratton Power Products Group, LLC  
**AUTOMATIC TRANSFER SWITCH**  
 ENCLOSED PANELBOARD

RATED VOLTAGE 250 VAC DATE OF MANUFACTURE  
 RATED CURRENT 100 AMP

THESE DISVICES ARE INTENDED FOR USE ONLY ON A 100% VAC SINGLE PHASE THREE WIRE SYSTEM  
 SUITABLE FOR USE IN ACCORDANCE WITH ARTICLE 100 OF THE NATIONAL ELECTRICAL CODE (NEC/NFPA 70).

**AUTOMATIC TRANSFER SWITCH FOR USE ON STANDBY SYSTEMS**  
 Suitable for control of motors, electric discharge lamps, tungsten filament lamps, and electrical heating equipment with the sum of the motor full load ampere ratings and the ampere rating of other loads does not exceed the rating of the switch, and the long-run load does not exceed 50 percent of the switch rating.

**AUTOMATIC SEQUENCE**

UTILITY FAIL - Utility voltage sensor senses when utility voltage is below 70% of nominal.  
 Engine start sequence is initiated after 6 second time delay.

ENGINE WARM-UP - Time delay to allow engine warm-up before transfer load at 20 seconds or 50 seconds with optional cold weather package.

TRANSFER - Transfer from utility to standby supply occurs after standby voltage is above set levels. Minimum engine run time is 4 minutes after transfer.  
 Voltage pickup level is 80% of nominal voltage.

UTILITY PICKUP - Remainder from standby to utility supply 10 seconds after utility voltage is above pickup level.

RETRANSFER - Remainder from standby to utility supply 10 seconds after utility voltage is above pickup level.

ENGINE COOL DOWN - Engine will run for 60 seconds after retransfer.

Testing of Automatic Transfer Switch - Turn the main service disconnect switch to the "OFF" position. The automatic sequence will follow. To go back to utility power, turn the main service disconnect to the "ON" position.

Consult Owner's Manual for explanation of Transfer System operation and features.

Enclosure is type NEMA 3R, suitable for indoor and outdoor installation.

Wiring to generator must be enclosed in conduit:  
 Max single conductor size 50A short-circuit current rating is limited to the lowest interrupting rating of any installed circuit breaker.  
 Suitable branch circuit breaker CMAA type BPT with 10,000 A short circuit rating min.  
 Connect utility and standby generator supply as shown.

Connector tightening torques shall be as follows:

UTILITY CONNECTION	LB IN.
TRANSFER SWITCH	50
NEUTRAL AND GROUND BARS	#14 - #10 AWG 20
CONDUCTOR CONNECTION	#6 - #4 AWG 35

Use oxide inhibitor on all aluminum terminations. All terminal and bus lugs are suitable for copper or aluminum wire of 60/75 °C rating. 205108

0250

Circuit Directory  
 Répertoire du circuit  
 Directorio de circuitos

1	2
3	4
5	6
7	8
9	10
11	12
13	14
15	16

80016108

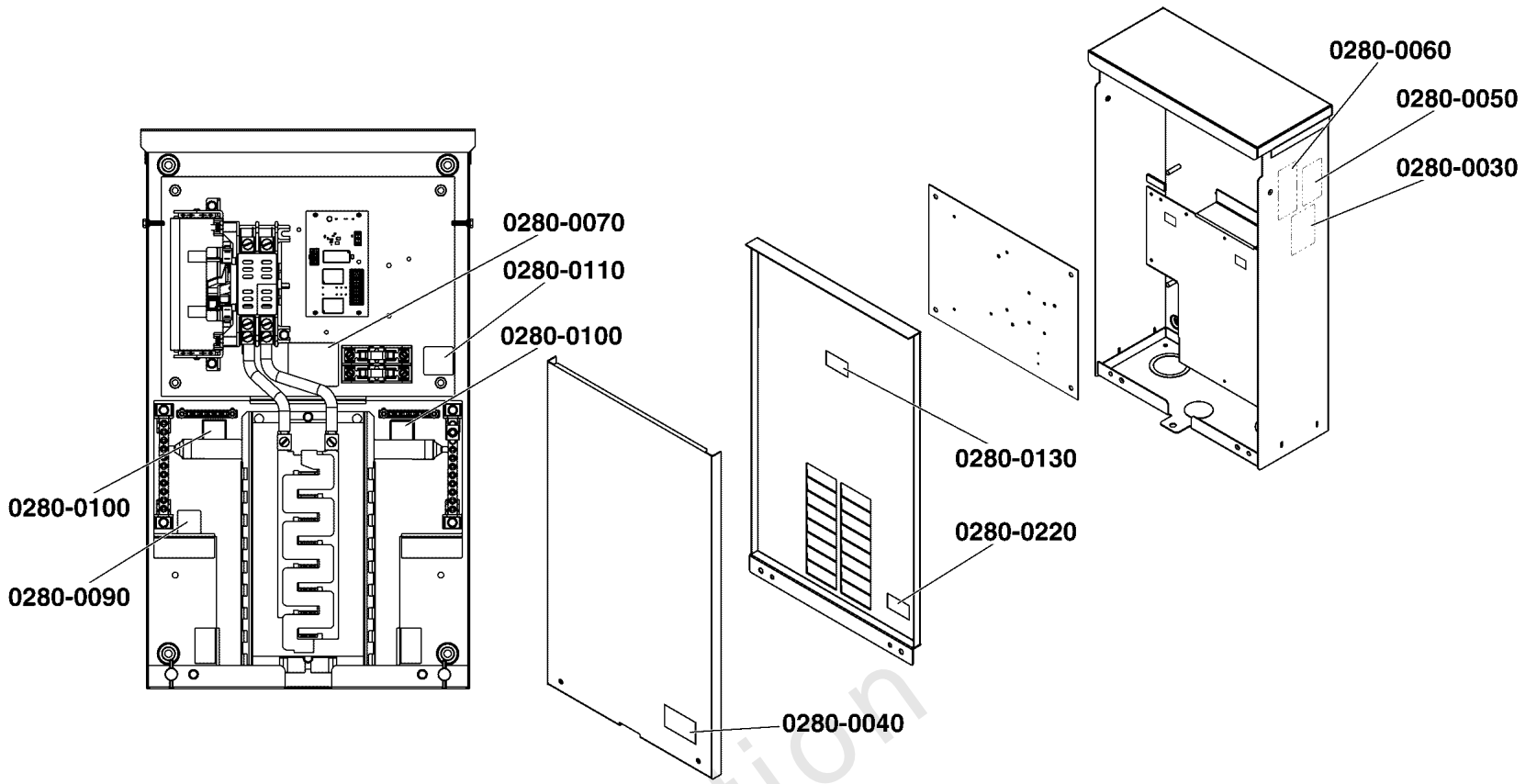
0260

## *Decals Group - ATS Informational*

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REF NO	PART NO	QTY	DESCRIPTION
0240	-----	1	DECAL, B&S Logo
0250	205108GS	1	DECAL, 100A, ATS
0260	-----	1	DECAL, Circuit Directory

Not For Reproduction



<p><b>0280</b></p> <p>Suitable for use as service equipment in Canada Peut être utilisé comme équipement de réparation au Canada Adecuado para uso como equipo de servicio en Canadá</p>	<p><b>0280-0010</b></p> <p><b>WARNING</b> <b>AVERTISSEMENT</b> <b>ADVERTENCIA</b></p> <p>Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel. Risque de décharge électrique. Ne pas retirer la couverture. Aucune pièce à entretenir par l'utilisateur à l'intérieur. Confier l'entretien à du personnel de service qualifié. Riesgo de descarga eléctrica. No quite la cubierta. No hay partes que puedan ser reparadas por el usuario en el interior. Haga que personal calificado realice el servicio.</p>	<p><b>NOTICE</b> <b>AVIS</b> <b>AVISO</b></p> <p>A-A Terminals rated 1 AMP, 24 Volt AC B-B Terminals rated 1 AMP, 120 Volt AC Pilot duty. Bornes A-A pour une tension nominale de 1 A, 24 V c.a. Bornes B-B pour une tension de 1 A, 120 V c.a. Service du pilote. Terminales calibrados A-A 1 Amperio, 24 Voltios CA Terminales calibrados B-B 1 Amperio, 120 Voltios CA Relé auxiliair.</p>	<p>Continuous load current not to exceed 80% of circuit breaker rating. Le courant de charge en continu ne dépasse pas 80% du courant nominal du disjoncteur La carga de corriente permanente no debe exceder el 80% del calibre del interruptor</p>	<p>When protected by one of the type circuit breakers described below, rated not more than 125 amperes, this transfer switch is rated for use on a circuit capable of delivering not more than 22,000 rms symmetrical, 240 volts max. Lorsqu'il est protégé par l'un des types de disjoncteurs de circuit décrits ci-dessous, avec une valeur nominale ne dépassant pas 125 A, cet interrupteur de transfert est coté pour une utilisation sur un circuit capable de fournir au maximum un courant de 22 000 RMS symétrique, avec un voltage de 240 V maximum. Cuando se protege con uno de los tipos de interruptores que se describen a continuación, con un calibre no mayor a 125 amperios, este interruptor de transferencia está calibrado para ser usado en un circuito capaz de suministrar no más de 22,000 rms simétricos, máximo 240 voltios.</p> <p>Cutler-Hammer Type QCHW Cutler-Hammer Type G8, G8B, GC, G8C Cutler-Hammer Type FD, GD, HFD Square D Type QDM1, QDM2, QDM1-VH, QDM2-VH Square D Type Q2-H, Q2H, QDL GE Type THHQ8, THHQ, THQL, THOD, THODL, THQDL Siemens Type HED4</p>	<p>Utility Disconnect Fonctionnalité Débrancher Utilidad Desconectar</p>
<p><b>0280-0020</b></p> <p><b>WARNING</b> <b>AVERTISSEMENT</b> <b>ADVERTENCIA</b></p> <p>Electric shock hazard could result in death or serious injury. Do not install or remove current transformer when generator is operating. Place generator in off position and remove controller fuse before servicing. Risque de choc électrique pouvant provoquer des blessures graves, voire la mort. Ne pas installer ou retirer le transformateur de courant lorsque la génératrice est en fonction. Placez la génératrice à la position d'arrêt et retirez le fusible de contrôle avant tout entretien. Riesgo de descarga eléctrica que puede resultar en muerte o lesión seria. No instale ni retire el transformador cuando el generador está en funcionamiento. Apague el generador y retire el fusible del controlador antes de reparar.</p>	<p><b>0280-0050</b></p> <p><b>NOTICE</b> <b>AVIS</b> <b>AVISO</b></p> <p>Wire all Class 2 circuits using types CL3, CL3P, CL3R or equivalent conductors. OR Wire all circuits as Class 1 or Electric Light and Power circuits. Lier tous les circuits électrique de Classe 2 en utilisant des conducteurs CL3, CL3P, CL3R ou équivalent. OU Lier tous les circuits électriques en tant que Classe 1 ou comme lumière électrique ou circuits d'alimentation. Conecte todos los circuitos de clase 2 al usar conductores de tipo CL3, CL3P, CL3R o equivalentes. O Conecte todos los circuitos como clase 1 o luz eléctrica y circuitos de energía.</p>	<p><b>0280-0090</b></p> <p><b>Utility</b> <b>240 VAC</b> <b>Fonctionnalité</b> <b>240 V CA</b> <b>Utilidad</b> <b>240 VAC</b></p>	<p><b>0280-0080</b></p> <p><b>0280-0100</b></p>	<p><b>0280-0140</b></p> <p>When protected by one of the type circuit breakers described below, rated not more than 250 amperes, this transfer switch is rated for use on a circuit capable of delivering not more than 25,000 rms symmetrical, 240 volts max. Lorsqu'il est protégé par l'un des types de disjoncteurs de circuit décrits ci-dessous, avec une valeur nominale ne dépassant pas 250 A, cet interrupteur de transfert est coté pour une utilisation sur un circuit capable de fournir au maximum un courant de 25 000 RMS symétrique, avec un voltage de 240 V maximum. Cuando se protege con uno de los tipos de interruptores que se describen a continuación, con un calibre no mayor a 250 amperios, este interruptor de transferencia está calibrado para ser usado en un circuito capaz de suministrar no más de 25,000 rms simétricos, máximo 240 voltios.</p> <p>Cutler-Hammer Type BWH, CSR Cutler-Hammer Type FD, HFD Cutler-Hammer Type JDB, JD, HJD Square D Type QDM2, QDM2-VH Square D Type Q2-H, Q2H, QDL GE Type THQD, THQDL GE Type SF, TFJ, TFK</p>	<p>0280-0180</p> <p>Utility Connection Fonctionnalité Connexion Utilidad Conexión</p>
<p><b>0280-0030</b></p> <p><b>WARNING</b> <b>AVERTISSEMENT</b> <b>ADVERTENCIA</b></p> <p>Electric shock hazard could result in death or serious injury. Disconnect all sources of supply voltage before servicing. Risque de choc électrique pouvant provoquer des blessures graves, voire la mort. Débranchez toutes les sources de tension électrique avant l'entretien. Riesgo de descarga eléctrica que puede resultar en muerte o lesión seria. Desconecte todas las fuentes de energía antes de reparar.</p>	<p><b>0280-0060</b></p> <p>Replace with UL listed fuse of same type and rating 600 volt, 10 amp. Remplacez avec un fusible homologue UL de même type et classification de 600 volts, 10 amp. Reemplace con un fusible certificado por UL del mismo tipo y clasificación: 600 voltios, 10 amperios</p>	<p><b>0280-0110</b></p> <p>Suitable for use as service equipment except in Canada Peut être utilisé comme équipement de réparation à l'exception du Canada Adecuado para uso como equipo de servicio excepto en Canadá</p>	<p><b>0280-0120</b></p> <p>Reinstall Barrier After Service or Maintenance Réinstaller la barrière Après la réparation ou l'entretien Reinstalar barreras Después del servicio o Mantenimiento</p>	<p><b>0280-0150</b></p> <p>Generator Service Disconnect Génératrice Réparation Débrancher Generador Servicio Desconectar</p>	<p><b>0280-0210</b></p> <p><b>WARNING</b> <b>AVERTISSEMENT</b> <b>ADVERTENCIA</b></p> <p>Cancer and Reproductive Harm www.P65Warnings.ca.gov Cancer et Troubles de l'Appareil Reproducteur www.P65Warnings.ca.gov Cáncer y Problemas Reproductivos www.P65Warnings.ca.gov</p>
<p><b>0280-0040</b></p>	<p><b>0280-0070</b></p>	<p><b>0280-0130</b></p>	<p><b>0280-0170</b></p>	<p><b>0280-0160</b></p> <p>Service Disconnect Réparation Débrancher Servicio Desconectar</p>	<p><b>0280-0200</b></p> <p>Located at Generator Située à Génératrice Ubicado en Generador</p>

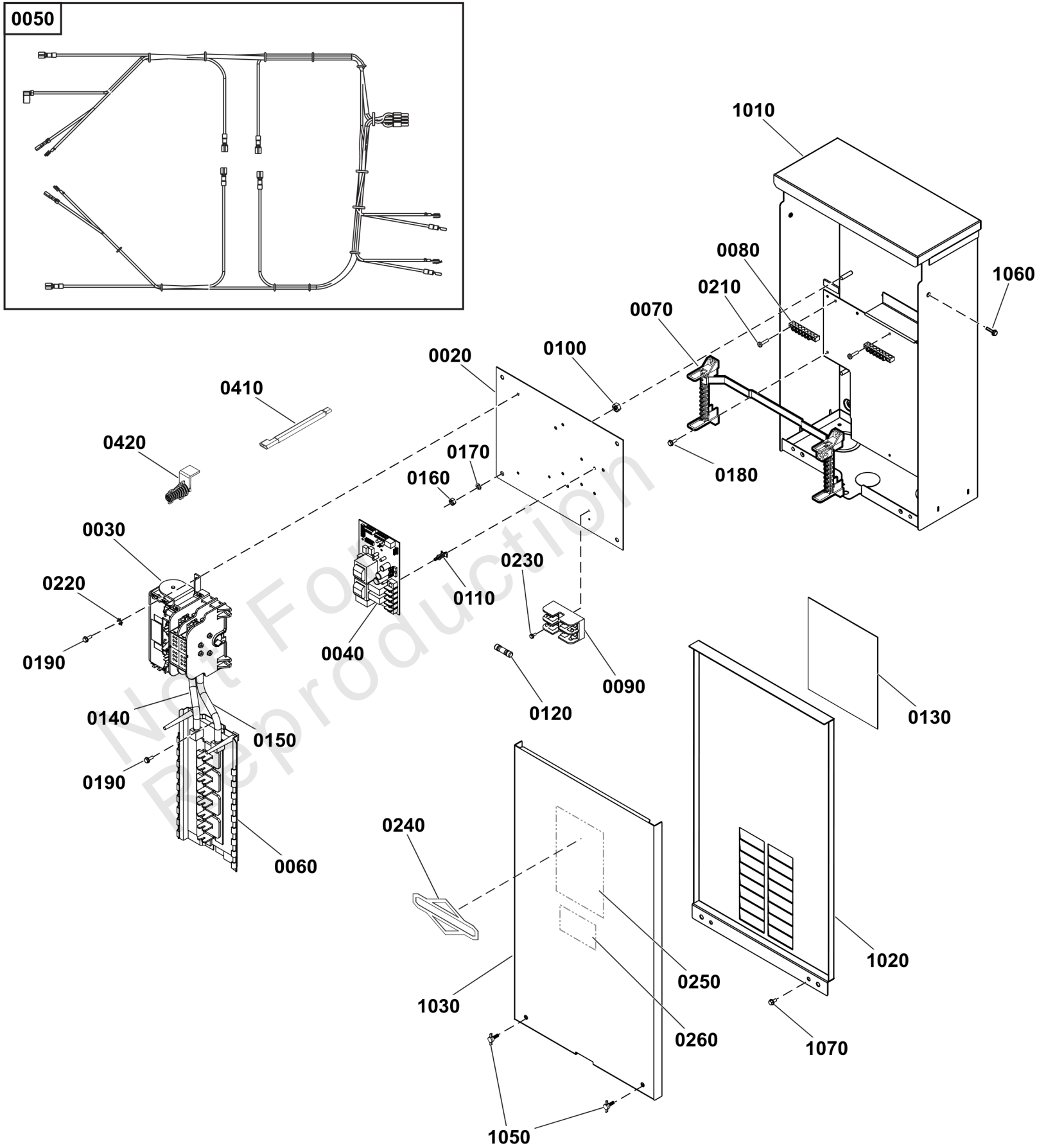
## Decals Group - ATS Warning

REF NO	PART NO	QTY	DESCRIPTION
0280	770133	1	DECAL SHEET - WARNINGS -(Includes items 0280-0010 thru 0280-0220)
0280-0010	-----	1	DECAL, Suitable as SRV Equipment, Canada
0280-0020	-----	1	DECAL-WARNING, SHOCK
0280-0030	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0280-0040	-----	1	DECAL-WARNING, ELECTRIC SHOCK
0280-0050	-----	1	DECAL, Notice, Contacts Rated
0280-0060	-----	1	DECAL, Notice, Wire Circuits
0280-0070	-----	1	DECAL-FUSE REPLACEMENT
0280-0080	-----	1	DECAL, Breaker, Circuit
0280-0090	-----	1	DECAL-NEUTRAL
0280-0100	-----	2	DECAL-GROUND
0280-0110	-----	1	DECAL, Utility 240VAC
0280-0120	-----	1	DECAL, Suitable as Service Equipment
0280-0130	-----	1	DECAL, Reinstall Barrier
0280-0140	-----	1	DECAL, Approved Circuit Breakers, 100A
0280-0150	-----	1	DECAL, Approved Circuit Breakers, 200A
0280-0160	-----	1	DECAL, Generator Service Disconnect
0280-0170	-----	2	DECAL, Service Disconnect
0280-0180	-----	2	DECAL, Disconnect, Utility
0280-0190	-----	2	DECAL, Connection, Utility
0280-0200	-----	1	DECAL, Connection, Generator
0280-0210	-----	1	DECAL, Location
0280-0220	-----	1	DECAL, Warning -(The installation of this decal is required for units manufactured after 08/30/2018 and sold in the state of California.)

# Transfer Switch - Enclosure

Note: Unless noted otherwise, use the standard torque specifications

Mfg. No: 071212-00





## Transfer Switch - Enclosure

REF NO	PART NO	QTY	DESCRIPTION
0020	-----	1	BACK PANEL
0030	314867GS	1	CONTACTOR, 100A
0040	770434	1	BOARD, Circuit
0050	84006866	1	HARNESS, Wire
0060	198719GS	1	BUS
0070	705747	1	BLOCK-NEUTRAL
0080	-----	2	KIT, Ground Bar
0090	192151GS	1	FUSE HOLDER, 30 Amp 2P
0100	22241GS	4	NUT, Hex, 3/8-16
0110	197979GS	4	SPACER, PCB Board, 1/2"
0120	205110GS	2	FUSE, 10 Amp 600v
0130	193664GS	1	INSULATION, Dead Front
0140	204431GS	1	WIRE - R
0150	204432GS	1	WIRE - R
0160	22127GS	4	NUT, Hex, 1/4-20
0170	22097GS	4	WASHER
0180	24679GS	4	TRILOBULAR, #10-32 x 3/4
0190	200020GS	5	SCREW, Trilobular, #10-32 x 1/2
0210	-----	4	SCREW, 10-32 X 1/2, Black
0220	23762GS	3	WASHER
0230	192730GS	2	SCREW, Hex Head, Trilobular, #6-32 x 3/8
0240	-----	1	DECAL, Logo
0250	205108GS	1	DECAL, 100A, ATS
0260	-----	1	DECAL, Circuit Directory
0410	-----	1	EXTENSION, Handle
0420	-----	1	INSULATOR, Terminal
1010	-----	1	ENCLOSURE
1020	-----	1	PANEL, Deadfront
1030	-----	1	DOOR, Enclosure
1050	315108GS	2	SCREW
1060	24679GS	2	TRILOBULAR, #10-32 x 3/4
1070	B5763GS	2	SCREW

# Hardware Identification & Torque Specifications

Torque Specification Chart								
FOR STANDARD METRIC MACHINE HARDWARE (Tolerance ± 20%)								
Property Class	5.6		8.8		10.9		12.9	
	Class 5.6		Class 8.8		Class 10.9		Class 12.9	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs		ft/lbs	
M3	5.88	.56	13.44	1.28	19.2	1.80	22.92	2.15
M4	13.44	1.28	30.72	2.90	43.44	4.10	52.56	4.95
M5	26.4	2.50	60.96	5.75	5.97	8.10	7.15	9.7
M6	44.64	4.3	7.3	9.9	10.3	14	12.1	16.5
M7	5.2	7.1	12.1	16.5	16.9	23	19.9	27
M8	7.7	10.5	17.7	24	25	34	29	40
M10	15	21	35	48	50	67	59	81
M12	26	36	61	83	86.2	117	103	140
M14	42	58	101	132	136	185	162	220
M16	64	88	147	200	210	285	250	340
M18	89	121	202	275	287	390	346	470
M20	126	171	290	390	405	550	486	660
M22	169	230	390	530	559	745	656	890
M24	217	295	497	375	708	960	840	1140
M27	320	435	733	995	1032	1400	1239	1680
M30	435	590	995	1350	1401	1900	1681	2280
M33	590	800	1349	1830	1902	2580	2278	3090
M36	759	1030	1740	2360	2441	3310	2935	3980
M39	988	1340	2249	3050	3163	4290	3798	5150

Torque Specification Chart						
FOR STANDARD MACHINE HARDWARE (Tolerance ± 20%)						
Hardware Grade	No Marks		SAE Grade 5		SAE Grade 8	
	SAE Grade 2		SAE Grade 5		SAE Grade 8	
Size Of Hardware	in/lbs	Nm.	in/lbs	Nm.	in/lbs	Nm.
	ft/lbs		ft/lbs		ft/lbs	
8-32	19	2.1	30	3.4	41	4.6
8-36	20	2.3	31	3.5	43	4.9
10-24	27	3.1	43	4.9	60	6.8
10-32	31	3.5	49	5.5	68	7.7
1/4-20	66	7.6	8	10.9	12	16.3
1/4-28	76	8.6	10	13.6	14	19.0
5/16-18	11	15.0	17	23.1	25	34.0
5/16-24	12	16.3	19	25.8	29	34.0
3/8-16	20	27.2	30	40.8	45	61.2
3/8-24	23	31.3	35	47.6	50	68.0
7/16-14	30	40.8	50	68.0	70	95.2
7/16-20	35	47.6	55	74.8	80	108.8
1/2-13	50	68.0	75	102.0	110	149.6
1/2-20	55	74.8	90	122.4	120	163.2
9/16-12	65	88.4	110	149.6	150	204.0
9/16-18	75	102.0	120	163.2	170	231.2
5/8-11	90	122.4	150	204.0	220	299.2
5/8-18	100	136	180	244.8	240	326.4
3/4-10	160	217.6	260	353.6	386	525.0
3/4-16	180	244.8	300	408.0	420	571.2
7/8-9	140	190.4	400	544.0	600	816.0
7/8-14	155	210.8	440	598.4	660	897.6
1-8	220	299.2	580	788.8	900	1,244.0
1-12	240	326.4	640	870.4	1,000	1,360.0

The guides and ruler furnished below are designed to help you select the appropriate hardware.

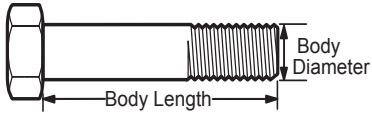


Nut, M8

Thread Diameter (mm)

Inside Diameter (in)      Threads per inch

Nut, 1/2-16



Screw, M8- 1.25 x 25

Thread Diameter (mm)      Distance between threads (mm)      Body Length (mm)

Body Diameter      Threads per inch      Body Length (in)

Screw, 1/2- 16 x 2



## Standard Hardware Sizing

When a washer or nut is identified as 1/2" (M8), this is the *Nominal size*, meaning the *inside diameter* is 1/2 inch (8mm metric thread diameter); if a second number is present it represents the *threads per inch* (distance between threads).

When bolt or capscrew is identified as 1/2 - 16 x 2" (M8 - 1.25 x 50), this means the *Nominal size*, or body diameter is 1/2 inch (8mm metric thread diameter), the second number, 16, represents the *threads per inch*, (*distance between threads*). The final number is the body length of the bolt or screw, 2 inches (50mm).

## NOTES

- These torque values are to be used for all hardware excluding: locknuts, self-tapping screws, thread forming screws, sheet metal screws and socket head setscrews.
- Recommended seating torque values for locknuts:
  - for prevailing torque locknuts - use 65% of grade 5 torques.
  - for flange whizlock nuts and screws - use 135% of grade 5 torques.
- Unless otherwise noted on assembly drawings, all torque values must meet this specification.

## Common Hardware Types

Hex Head Capscrew



Washer



Carriage Bolt



Hex Nut

## Wrench & Fastener Size Guide

1/4" Bolt or Nut Wrench—7/16"	5/16" Bolt or Nut Wrench—1/2"	3/8" Bolt or Nut Wrench—9/16"	7/16" Bolt or Nut Wrench (Bolt)—5/8" Wrench (Nut)—11/16"	1/2" Bolt or Nut Wrench—3/4"
M6 Bolt or Nut Wrench—10mm	M8 Bolt or Nut Wrench—13mm	M10 Bolt or Nut Wrench—17mm	M12 Bolt or Nut Wrench—19mm	M14 Bolt or Nut Wrench—22mm

